

individual appears to proceed from the union of the fragments of the old one. In *Dendrocometes*, very probably, the new nucleus originates in a somewhat different manner; the fragments of the old one dissolve (wholly or partially) in the plasma, and separate again as a unitary body, very much as crystals, under certain conditions, grow out of their mother-liquor.

An observation which I have frequently made upon *Asellicola* is of theoretical importance, namely that sometimes three individuals conjugate with each other by means of two canals of union. It still remains to be ascertained, however, how in this case the nucleus of the middle animalcule behaves towards the other two nuclei.

In our *Acineta* conjugation is by no means a rare phenomenon, as it is in almost all other Infusoria. In it, also, we may speak of a sort of "epidemic," inasmuch as we are pretty sure to find pairs upon all the branchial laminae of a Crustacean if we observe them upon one. In general it is middle-sized individuals that conjugate, while bud-formation is the duty of the full-grown ones.

EXPLANATION OF PLATE X., B.

Fig. 4. *Asellicola digitata*, St., adult, $\times 540$.

Fig. 5. The same, commencing bud-formation, $\times 235$.

Fig. 6. The same, a free bud from beneath.

Fig. 7. The same, individual seeking conjugation, $\times 540$.

Fig. 8. The same, the end of conjugation, $\times 540$.

Figs. 9, 10. The same, stages of conjugation, $\times 540$.

In all the figures the letters have the following signification:—N., nucleus; n., nucleolus; c. v., contractile vacuole; t., tentacles; ti., tintin-globules.

XXVI.—*Descriptions of some new Species of Coleoptera in the British Museum.* By L. PÉRINGUEY.

GEODEPHAGA.

Mantichora congoensis.

Nigra, subnitida, capite magno prothoraceque antice atque lateraliter punctatis; elytris elongatis, subrectis, a medio ad apicem valde deflexis et tuberculis acutis crebre tectis.

Long. 40, lat. 18 mm.

Size of *M. tuberculata*; head and prothorax similar; elytra

somewhat linear and narrow, with the humeral serration but little developed, and with the dorsal part strongly declivous from near the base to the apex, covered with small but acute slightly setigerous tubercles, not set so closely as in *M. tuberculata* or in *M. latipennis*, and without any erect bristles posteriorly; each elytron with a small raised line nearly in the centre.

A truly distinct species, easily recognized by the sublinear form of the elytra, as well as by the great declivity of the posterior part of the disk. The legs and underside as in *M. tuberculata*.

One male from Congo in the British Museum. I at first doubted the habitat of this insect. I have, however, seen another example, also a male, in Mr. H. W. Bates's collection from the same locality.

Ophryodera Bohemani.

Obscure cuprea, capite prothoraceque albo-pubescentibus; elytris inæqualiter punctulatis, fascia flavescente lata sinuataque a basi intra apicem ducta lunula mediana alteraque triangula subapicali includente, illa cum suturam conjuncta in singulo ornatis.

Long. 21, lat. 7 mm.

A very distinct species. Head and prothorax as in *O. rufomarginata*; elytra with a very broad golden-yellow sinuated band, disconnected from the margin and the suture, narrowed on the median part, where it encloses a small rounded spot (background), enlarged from past the middle, narrowed towards the apex, and forming within the subapical sutural part a dent which leaves an irregular triangular patch of the background visible.

Legs and underside as in *C. rufomarginata*.

This splendid insect (a female) comes from Angola.

Ophryodera rufomarginata, Bohem., var. *Bradshawi*.

Obscure cuprea, capite prothoraceque albo-pubescentibus; elytris sutura, linea subhumerali introrsum ducta, puncto in medio fasciaque marginali intra apicem albis.

Long. 20, lat. 7 mm.

The markings of this insect vary very much according to localities. The present variety is, however, well separated from Boheman's type; it is larger and of deeper bronze colour; the elytra have lost the large triangular antemedian lunule, and there is only left a slightly curved line starting from the

outer margin and reaching the centre of the elytron; the mark of interrogation (*vide* Boheman's description) is reduced to a mere dot, evidently the apex of the said marking; the sutural band and the apical marginal one connected with the sutural line remain the same. These markings are of a chalky white instead of the rich golden-yellow of the type.

From the Zambezi.

Ophryodera rufo-marginata, Bohem., var. *Oberthueri*.

A very large female specimen which I have seen in Mons. René Oberthür's magnificent collection is closely allied to the preceding variety.

It is larger, the sutural band is the same, the antemedian band is similar to that of var. *Bradshawi*, but the postmedian macula is altogether missing, and the apical marginal band is very narrow and ascends higher along the outer margin; the colour of the markings is also the same.

I believe I have seen an example of this variety in Mr. H. W. Bates's collection; both these specimens were collected by my friend the late Dr. Bradshaw near the Zambezi River.

Lastly, I have received from Northern Damaraland another variety of this polychrome Cicindelid, which I intend to describe shortly, and which unites all these varieties with the typical insect described by Boheman.

Graphipterus angolensis.

Niger, subnitidus; antennis elytrisque rufescenti-brunneis, fronte prothoraceque utrinque albido-pubescentibus, hoc brevi, subcordato; elytris subrotundatis, denudatis, striatis margine laterali albo-pubescente.

Long. 10, lat. 6 mm.

Head covered with a white pubescence; prothorax cordiform, grooved in the centre, with the sides densely pilose; elytra shaped like those of *G. ferruginosus*, Chaud., somewhat more rounded in the female, denuded, with six raised costæ; costæ and interstices strongly punctured, and with the outer margin clothed with thick whitish hairs; legs reddish brown.

Two examples from Angola.

Graphipterus velox.

Niger, ovatus, pube supra cinereo-brunnea, subtus albida tectus;

prothorace medio denudato; elytris vitta sublata prope suturam posita in singulo ornatis.

Long. 14, lat. 6 mm.

Shape and size of *G. adamantinus*, Péring.; prothorax much narrower and cordiform, as in *G. limbatus*, denuded in the middle; the elytra are also narrower near the base, covered with an ashy brown villosity, and have each a moderately broad black band a little distant from the suture, reaching nearly to the apex but not the base; sides of the abdomen and underside of thorax covered with short white hairs; legs brown.

One example from Angola.

RHYNCHOPHORA.

Brachycerus maculicollis.

Ovatus, niger, griseo-squamosus; rostro apice dilatato, basi subtuberculato, a capite disjuncto; prothorace granulato, utrinque acute spinoso, medio antice canaliculato, maculis quatuor ochraceis notato; elytris crebre granulatis, tuberculis majoribus duplici serie in singulo instructis.

Long. 20-26, lat. 10-16 mm.

Black, covered with a greyish pubescence. Rostrum moderately long, depressed, scrobiculated, and with two small tubercles on each side of the apex, separated from the head by a transverse groove; prothorax covered with depressed setigerous warts, produced in an acute spine on each side, having a deep impression with raised smooth walls on the anterior part and four thick, ochraceous, squamose patches, one on each side of the fore part of the disk and two on the posterior part; the basal part is also squamose; elytra ovate, convex, covered with closely set, comparatively large granules, and each with two rows of larger, rounded, slightly setigerous tubercles, somewhat acute posteriorly; the wing-cases have here and there a few irregular white scales. Underside black, squamose, with two round ochraceous spots on the sides of the abdomen, also on the segments; apex of femora annulated with white; tibiæ tomentose, brown.

One example from Natal. I have received this insect also from Delagoa Bay and Upper Damaraland. It is allied to *B. lubrusca* and *B. natalensis*.

Brachycerus brachyceropsides.

Elongatus, niger, terreno-squamosus; rostro elongato, prothorace valde ampliato, supra subdeplanato; elytris rugosis, angustis, ad

medium attenuatis, supra convexis, tuberculis seriatis duplici serie in singulo positis.

Long. 26, lat. $10\frac{1}{2}$ mm.

Black, covered with a brown squamosity. Rostrum elongated, shaped like that of *B. setipennis*; scape of antennæ elongated, the other joints closely set, the apical one cylindrical; prothorax very rugose, much amplified, shaped like that of *B. cornutus*, with the sides subangular, much sinuated anteriorly, as broad as the elytra, which are very elongated, narrowed in the middle, slightly amplified posteriorly, convex, very rugose, and each provided with two rows of tubercles, the discoidal more conspicuous than the second row. Legs as in *B. setipennis*.

One example from Natal.

Cape Town,
July 25, 1888.

XXVII.—On the Fossil Fish-spines named *Cœlorhynchus*, Agassiz. By A. SMITH WOODWARD, F.G.S., F.Z.S., of the British Museum (Natural History).

AMONG the most interesting of undetermined Ichthyodorulites are some straight, long, slender, round, ribbed spines, met with in the Upper Cretaceous and Tertiaries, and originally described by Agassiz as the rostral bones of sword-fishes under the name of *Cœlorhynchus**. Their dermal nature was first pointed out by Williamson †, who published a detailed microscopical description; and fragments of the fossil have since been recognized from various parts of the world.

Cœlorhynchus cretaceus occurs in the Chalk of England ‡, and fragments of a similar spine in the "Mucronatenkreide" of Lüneburg §. Agassiz (*loc. cit.*) named *C. rectus* and *C. sinuatus*, without description, from the Bracklesham Beds and the London Clay of Sheppey respectively ||. Le Hon ¶, P.

* L. Agassiz, Rech. Poiss. Foss. vol. v. pt. i. (1843), p. 92.

† W. C. Williamson, "Investigations into the Structure and Development of the Scales and Bones of Fishes," Phil. Trans. 1849, p. 471, pl. xliii. figs. 35-37; *ibid.* 1851, p. 668.

‡ F. Dixon, Geol. and Foss. Sussex, 1850, p. xii, pl. xxxii. fig. 10.

§ W. Dames's paper quoted below, p. 148.

|| *C. rectus* is erroneously ascribed to the London Clay in the original notice. See figures by F. Dixon, *op. cit.* pl. x. figs. 14-17, pl. xi. fig. 26.

¶ H. Le Hon, 'Préliminaires d'un Mémoire sur les Poissons tertiaires de Belgique,' 1871. Figures given in Burtin's 'Oryctographie de Bruxelles,' 1784, pl. vi. figs. A-H.